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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,861	04/11/2005	Hiroshi Fukushima	3693-62	2268
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EXAMINER				
NGUYEN, LAUREN				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,861

Applicant(s)

FUKUSHIMA ET AL.

Examiner

LAUREN NGUYEN

Art Unit

2871

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6, 9 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-8, 10-, 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of **Group I invention**, including **claims 1-4, 7-8, 10, and 12-16**, in the reply filed on 07/18/2008 is acknowledged.

Response to Amendment

2. Applicant's arguments with respect to **claim 1-4, 7-8, 10, 12-16** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

a. A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-2, 7** are rejected under 35 U.S.C. 102(b) as being anticipated by **Knight (US 5,825,436)**.

5. Regarding **claim 1**, **Knight** (figure 5) discloses a parallax barrier device comprising a pair of transparent-electrode substrates each provided with a transparent electrode (see at least column 3, lines 40-45), wherein a barrier light-shielding part (80; see at least column 3, lines 40-45) and a light-transmitting part (82) are formed in a gap between the pair of transparent-electrode substrates, a liquid crystal layer (76) is formed in the barrier light-shielding part, and a resin layer (82) having the property of transmitting light is formed in the light-transmitting part, the barrier light-shielding part separates light for a first image viewed from a first direction and light for a

second image viewed from a second direction different from the first direction, and the light-transmitting part transmits the light for the first image and the light for the second image.

6. Regarding **claim 2, Knight** (figure 5) discloses the first image is viewed by a viewer's left eye, and the second image is viewed by the viewer's right eye.

Please note that the claims are directed to apparatus which must be distinguished over the prior art in term of structure rather than functions [MPEP 2114]. Hence, the functional limitations of "the barrier light-shielding part separates light for a first image viewed from a first direction and light for a second image viewed from a second direction different from the first direction, and the light-transmitting part transmits the light for the first image and the light for the second image" (claim 1) and "the first image is viewed by a viewer's left eye, and the second image is viewed by the viewer's right eye" (claim 2) which are narrative in form have not been given any patentable weight. In order to be given patentable weight, a functional recitation must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959).

7. With respect to **claim 7, Ma** (figure 2) discloses the transparent electrode provided in each of the pair of transparent-electrode substrates is a common electrode (see at least column 6, lines 40-50).

8. **Claims 1-3, 7, 10** are rejected under 35 U.S.C. 102(b) as being anticipated by **Sakata (US 4,729,640)**.

9. Regarding **claim 1, Sakata** (figure 1A) discloses a parallax barrier device comprising a pair of transparent-electrode substrates each provided with a transparent electrode (ITO), wherein a barrier light-shielding part (2) and a light-transmitting part (1) are formed in a gap between the pair of transparent-electrode substrates, a liquid crystal layer (2; see at least column 5, lines 15-20) is formed in the barrier light-shielding part, and a resin layer (1) having the property of transmitting light is formed in the light-transmitting part, the barrier light-shielding part separates light for a first image viewed from a first direction and light for a second image viewed from a

second direction different from the first direction, and the light-transmitting part transmits the light for the first image and the light for the second image.

10. Regarding **claim 2, Sakata** (figure 1A) discloses the first image is viewed by a viewer's left eye, and the second image is viewed by the viewer's right eye.

Please note that the claims are directed to apparatus which must be distinguished over the prior art in term of structure rather than functions [MPEP 2114]. Hence, the functional limitations of "the barrier light-shielding part separates light for a first image viewed from a first direction and light for a second image viewed from a second direction different from the first direction, and the light-transmitting part transmits the light for the first image and the light for the second image" (claim 1) and "the first image is viewed by a viewer's left eye, and the second image is viewed by the viewer's right eye" (claim 2) which are narrative in form have not been given any patentable weight. In order to be given patentable weight, a functional recitation must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959).

11. Regarding **claim 3, Sakata** (figure 1A) discloses the barrier light-shielding part and the light-transmitting part (1, 2) are alternately arranged along a direction in a plane parallel to the pair of transparent-electrode substrates and the width of the barrier light-shielding part in the direction in the plane is larger than or equal to the width of the light-transmitting part in the direction in the plane.

12. Regarding **claim 7, Sakata** (figure 1A) discloses the transparent electrode provided in each of the pair of transparent-electrode substrates is a common electrode.

13. Regarding **claim 10, Sakata** (figure 1A) discloses the resin layer having the property of transmitting light also functions as a spacer for maintaining a uniform space between the pair of transparent-electrode substrates.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. **Claims 3 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** in view of **Sakata (US 4,729,640)**.

16. Regarding **claim 3**, **Knight** (figure 5) discloses the barrier light-shielding part and the light-transmitting part (80, 82) are alternately arranged along a direction in a plane parallel to the pair of transparent-electrode substrates. **Knight** does not disclose the width of the barrier light-shielding part in the direction in the plane is larger than or equal to the width of the light-transmitting part in the direction in the plane. However, **Sakata** (in at least figure 1A; column 4, lines 25-30 and column 9, lines 50-55) discloses the width of the barrier light-shielding part in the direction in the plane is larger than or equal to the width of the light-transmitting part in the direction in the plane (1, 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device as taught by **Sakata** since it was known that is the most basic construction of the liquid crystal modulation device and such modification would improve the light flux utilization efficiency and the contrast ratio of LCD devices.

17. Regarding **claim 10**, **Sakata** (figure 1A) teaches the resin layer having the property of transmitting light also functions as a spacer for maintaining a uniform space between the pair of transparent-electrode substrates.

18. **Claims 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** (or **Sakata**) in view of **Baek (US 2004/0004687)**.

19. Regarding **claim 4**, **Knight** (or **Sakata**) discloses the limitations as shown in the rejection of **claim 1** above. **Knight** (or **Sakata**) does not disclose the liquid crystal layer as claimed in

claim 4. However, **Baek** (in at least paragraphs 0011 and 0021-0022) discloses the liquid crystal layer is a liquid crystal layer (23, figure 3) exhibiting homogeneous alignment and containing a liquid crystal material whose dielectric-constant anisotropy is positive, and the liquid crystal layer has a retardation of $1/2$ of the wavelength of light entering the liquid crystal layer under application of no voltage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal layer of **Knight** (or **Sakata**) with the liquid crystal material of **Baek** since it was known in the art that using such liquid crystal layer is a known method of controlling the light going through the liquid crystal display devices.

20. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** (or **Sakata**) in view of **Eichenlaub** (U.S. Patent Number 6,157,424).

21. With respect to **claim 8**, **Knight** (or **Sakata**) discloses the limitations as shown in the rejection of **claim 1** above. **Knight** (or **Sakata**) does not disclose a pair of polarizers sandwiching the pair of transparent-electrode substrates therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other. However, **Eichenlaub**, in at least column 6, lines 66-67; and column 7, and 1-4, figures 2 and 6, discloses a pair of polarizers (35 and 40) sandwiching the pair of transparent-electrode substrates (36 and 38) therebetween, wherein the directions of transmission easy axes of the pair of polarizers are approximately parallel to each other (see at least column 7, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the parallax barrier device of **Knight** (or **Sakata**) with the pair of polarizers of **Eichenlaub** because such modification would provide a thinner, simpler, and less expensive device in which 2D image can be viewed without

applying voltage to the barrier device and 3D image can be viewed by applying voltage to the barrier device (see at least column 7, lines 10-25).

22. **Claims 12-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Knight** in view of **Akins et al.** (US 6,842,170).

23. Regarding **claim 12**, **Knight** (figure 5) discloses a display apparatus comprising: the parallax barrier device of claim 1; and an image display device. **Knight** does not disclose pixel parts. However, **Akins et al.** (in at least column 2, lines 23-54) teaches an analogous display having pixels. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the display disclosed by **Knight** to incorporate pixels in the display to allow portions of the display to be individually controlled according to conventional addressing means. Therefore, **Knight as modified by Akins et al.** teaches a first pixel part constituting the first image and a second pixel part constituting the second image.

24. Regarding **claim 13**, **Knight as modified by Akins et al.** teaches the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye.

Please note that the claims are directed to apparatus which must be distinguished over the prior art in term of structure rather than functions [MPEP 2114]. Hence, the functional limitations of "the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye" which are narrative in form have not been given any patentable weight. In order to be given patentable weight, a functional recitation must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959).

25. Regarding **claim 14**, **Knight** (figure 5) discloses a light source placed at a larger distance from a viewer than those from the parallax barrier device and the image display device (see at least column 3, lines 20-30).

26. Regarding **claim 15, Knight** (figure 5) discloses the liquid crystal layer switches display between a first display and a second display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates (see at least column 3, lines 40-45).

27. Regarding **claim 16**, since **Knight** (figure 5; column 3, lines 40-45) discloses the liquid crystal layer switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates, **Knight** implicitly discloses switches display between a stereoscopic display and a plane display.

28. **Claims 12-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakata** in view of **Lipton (US 5,686,975)**.

29. Regarding **claim 12, Sakata** discloses a display apparatus comprising the parallax barrier device of claim 1 but does not disclose the image display. **Lipton** (figures 1-3) discloses an image display device (301) including a first pixel part constituting the first image and a second pixel part constituting the second image (L and R, figure 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display apparatus as taught by **Lipton** because such modification would achieve an increase in profitability.

30. Regarding **claim 13, Lipton** (figures 1-3) discloses the first pixel part is a pixel part for a left eye, and the second pixel part is a pixel part for a right eye (L and R, figure 3).

31. Regarding **claim 14, Lipton** (figures 1-3) discloses a light source (300) placed at a larger distance from a viewer than those from the parallax barrier device and the image display device (301 and 303).

32. Regarding **claim 15, Sakata as modified by Lipton** (figures 1-3) discloses the liquid crystal layer (202) switches display between a first display and a second display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates (see at least column 7, lines 45-50).

33. Regarding **claim 16, Sakata as modified by Lipton** (figures 1-3) discloses the liquid crystal layer switches display between a stereoscopic display and a plane display by switching the state of light between opaque and transmission in accordance with an electric signal applied to the pair of transparent-electrode substrates. (see at least column 7, lines 45-50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Nguyen whose telephone number is (571) 270-1428. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. N./

Examiner, Art Unit 2871

/David Nelms/

Supervisory Patent Examiner, Art Unit 2871